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S. E. MAXON, ARCHITECT, Office over savings bank, COUNCIL BLUFFS, - - Iowa.

REAL ESTATE, W. C. James, in connection with his law and real estate business buys and sells real estate. Persons wishing to buy or sell city property call at his office, over Bushnell's book store, Pearl Street.

ANTS, BEES AND WASPS.

Insects That Live in Communities Like Men. London Pall Mall Gazette.

There are few departments of natural history more fascinating than that which deals with the habits and instincts of the social insects, and Sir John Lubbock's interestingly patient and minute experiments have placed him at the very head of all observers in this delightful field.

He touches lightly on the life-history of the individual ants, which live as he himself has shown in their nests for at least seven years, and gives a brief account of their structure and castes, which might have been advantageously accompanied, in a popular description like this, by some details as to the principal native genera and species.

The relation of ants with various plants and other insects have always excited great attention; and on these subjects Sir John Lubbock has collected all the best previous observations, which he corrects, confirms, or completes by later researches of his own.

After pointing out the numerous contrivances by which plants guard the honey in their flowers against the deprivations of thieving ants, as noted by Kerner and others, he goes on to describe such cases of alliances between trees and ant communities as that remarked by Mr. Belt in a Central American species, which produces nectar in glands on its leaves in order to entice a small species of roving ants--the latter in return protecting the tree from the ravages of their leaf-cutting congeners.

Mr. Moseley has shown that certain tropical plants cannot grow at all unless infested by a colony of ants, and in other cases insects are useful to their host by killing off caterpillars and similar destructive enemies. There are also the harvesting ants of Syria and India, as well as the still more curious agricultural ants of Texas, which clear a space of ground around their nest from all weeds, and in doing so, actively to the growth of a peculiar kind of grass known as ant-rice.

But the relations between these insect communities and other animals are even more interesting than their relations with the world of plants. Sir John Lubbock quotes graphic accounts both of the drivers and the blind foraging ants, which he supplements by his own valuable observations upon aphides. It has long been known that ants keep these small plant-lice as domestic animals, milking them for the sake of their honey-dew, which the aphides express when carried by the antennae of their masters.

Our author, however, has discovered that the provident little herdsmen actually carry the eggs of the aphides into their nests, and place them out in the spring on their proper food-plants. They also guard their cattle at times by building earthen cowsheds over their heads. Different species of ants keep different aphides--some underground and others on the surface; and Sir John suggests that to these differences of habit their distinctive specific colors may perhaps be due.

He even fancies he detects in an intermediate species, preserved for us in amber, the common ancestor of one lark and one lighter modern kind. The ants also keep several other domestic animals, such as blind beetles, some of them, perhaps, as pets, but others apparently for the sake of their agreeable excretions. The numerous interesting facts on this subject, as also on the question of slavery among ants, cannot be set down here even in the briefest abstract; readers must get the book for themselves, and they will find it teeming with scientific marvels not unrelieved by characteristic touches of humor, from the first page to the last.

In the matter of relative development Sir John Lubbock thinks he can trace distinctions between more civilized and less civilized communities, answering respectively to the hunting, the pastoral, and the agricultural stages among mankind; while, as regards slavery, he points out a progressive degeneration from certain war-like races, which seem but recently to have acquired that bad habit, down to degraded creatures which have lost even the instinct of feeding themselves, and still more abject kinds, which have fallen to the condition of mere parasites upon their former serfs.

The most novel part of our author's own researches is that which relates to the intelligence, the sense perception, and the moral character of his little protégés. On the whole, formicidology, at least as exhibited in practice, appears to indicate a low collective hedonistic standard. The ants seldom show individual kindness to a friend, though in this respect there seem to be differences between one idiosyncrasy and another--good Samaritans among the ants as well as priests and Levites. As a rule, the various members of the nest will behave decently well to their own fellow-creatures when injured or when drunk and incapable. Their

recognition of friends was severely tested, and resulted in the discovery that they knew their own comrades after a separation of nearly two years.

This recognition does not seem, however, to be due to individual acquaintance, nor to the use of a distinctive password; for fellow-creatures are recognized even if reared in the past stage, and brought up in another nest. Sir John Lubbock also experimented on their supposed faculty of intercommunication, and came to the conclusion that they seem to possess something approaching to language.

As regards their senses, they can distinguish colors to some extent, at least, and they show a curious dislike of violet, though it is possible that these rays actively hurt them in some way unknown, rather than prove merely distasteful. The researches of the general intellect of ants are striking instances of exact scientific method, and they go to convince us that on the whole these little creatures possess hardly any individual initiative, though perhaps one could hardly expect that they would think in the construction of bridges or some of the other tasks which their rigorous examiner set them.

The part of the work devoted to bees and wasps does not entirely respond to the credit of those somewhat overrated and essentially heartless insects. Bees are industrious, no doubt; but they turn out to be stupid at finding their way, reckless in the indulgence of their insatiable appetite for honey, wholly devoid of moral regard for the rights of others, and coldly indifferent to the fate of their co-workers by blood and birth. They have no personal affection for one another, and even their devotion to their queen has been largely overestimated. But they can undoubtedly distinguish colors, and they show a great taste for blue, which are good points as far as they go, since to them we mainly owe the existence of petals in flowers. Upon this subject, and especially their part in helping on the evolution of blue blossoms, the present volume contains some curious and acute speculations. The famous tawny wasp, which used to feed from her learned owner's hand, comes in for a few words of recognition; and on the whole we are inclined to think better of her, morally and intellectually, than of her cousin, the bee. She came from the sunny south, and Sir John Lubbock tried to keep her alive through our English winter, but nature was too strong for him; she grew gradually numb and cold, and at last faded instantly away, through her sorrowing master's grief.

Our Growing Silk Industry. Iron and Steel Bulletin. A report just issued by the Silk Association of America, summing up the statistics of the fiscal year ending June 30, 1882, shows that the manufacture of silk goods has now attained the highest point in its history in the United States.

The value of the goods made in the American factories in the year just ended was about \$25,000,000. This industry is peculiarly subject to great fluctuations. In bad times it will fall off one-half in a single year. In good times it will expand rapidly, even in the face of high wages. During the sunny season of business prosperity following the return of specie payments it has grown year by year, and it has now reached a development of which those who are pushing its progress may well be proud.

The American makers have the satisfaction of knowing that they have now doubled the product of the very best year they ever had before the panic of 1873. The fact is the more gratifying because it is attended with the circumstance that the gain in the importation of foreign silk goods by foreign makers since they do in China and Japan, or even in Italy, the silk-raisers cannot hold their own against two countries where wages are twelve cents a day. Asia is therefore the source of principal supply.

The raising of raw silk in the United States has not reached the stature of a regular industry. An attempt was made to raise it in the State of Louisiana, but it failed. It is so difficult to carry on the raising of raw silk in America as a regular industry. It is the cheapness and excellence of labor in Asia. Bancroft speaks of the "redundant population" required for the culture of silk, and these conditions exist nowhere as they do in China and Japan, or even in Italy. The silk-raisers cannot hold their own against two countries where wages are twelve cents a day. Asia is therefore the source of principal supply.

Millions Given Away. Millions of bottles of Dr. King's New Discovery for Consumption, Coughs and Colds, have been given away as Trial Bottles free of charge. This enormous outlay would be disastrous to the proprietors, were it not for the rare merits possessed by this wonderful medicine. Call at C. E. Goodman's Drug Store, and get a Trial Bottle free, and try for yourself, never fails to cure.

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with small quantities in Pennsylvania, New Jersey, California and a few other states, a very small result when it is considered that in 1870 there were 1,000,000 mulberry trees in California alone, planted especially for silk raising.

No Humbugging the American People. You can't humbug the American people when they find a remedy that suits them; they use it and recommend it to their friends. Just exactly the case with Spano's Balm, which has become a household word all over the United States. Price 50 cents, trial bottles 10 cents. July 17th.

IRON RUST PREVENTED. A Valuable Discovery in the Matter of Treating the Metal. S. T. Thomas.

Up to the present time no process has been discovered or practiced in this country which has been able to overcome the inclination to oxidation or rust. A process has, however, been perfected in England, and is in use in that country, and in France, Germany, and Belgium, which has overcome the evil and is absolutely rust-proof. And curiously enough the system of treatment requires the artificial rusting of the iron before it can be rendered rust-proof.

The process is that known as the Bower-Hart process. It consists in artificially creating a coating of magnetic oxide of iron on the surface of the iron. Magnetic oxide of iron, as is well known, in its natural state is unaffected by exposure to the atmosphere. That fact led to a long series of experiments by Prof. Hart, of England, which were not wholly successful, save in the treatment of wrought iron, as a uniform coating of the magnetic oxide could be obtained. His process consisted in the treatment of iron and steel in an externally heated chamber to an atmosphere of superheated steam. Mr. George Bower and his son, Mr. A. S. Bower, simplified this method of treatment by using internally heated chambers or ovens and using air heated to a high temperature in the place of steam. By a combination of the two processes there resulted the present one, which has been prosecuted in Europe for two years with the most complete success. The iron articles which it is designed to make rustless are placed in a fire-brick chamber. Connected with the chamber is a series of gas producers. The gas, as produced, is led along passages and mixed with air in a highly heated condition and consumed--the product being carbonic acid. This and a small quantity of free air enter the chamber and are partially deprived of their oxygen by their contact with the iron articles. The result is the production of a coating of magnetic oxide, incorporated with the surface of the iron. Over this there is, however, a thin coating of the sesquioxide of iron, or rust. This process of oxidation occupies about a half hour. At its conclusion the air is shut off and carbonic oxide admitted to the chamber, the result being that the coating of rust is converted into a magnetic oxide. This oxidizing process consumes a quarter of an hour, and the repetition of the processes produces a coating of any desired thickness. The reason why this process is so much superior to any process of galvanizing, enameling, or any other plan, yet devised lies in the fact that the coating is not a scale, but is virtually made a portion of the substance treated. A singular fact in connection with the process is that a portion of rusted iron can be thrust into a chamber, subjected to the treatment, and be at once converted into a rustless bit of iron. If a chalk-mark be made on a bit of iron subjected to this treatment, or if any of the sand from the foundry clings to the material, it makes no difference in the success of the oxidation, as the process goes on underneath these foreign substances as effectively as though the iron were perfectly clean.

After treatment in this way the iron comes from the chambers of a French gray color with shades deepening to black. It can then be bronzed, gilded, or silvered, and paint applied will remain on it in the same way that it does on wood or stone without flaking off, as it does from iron that does not have the magnetic oxide coating. The discovery is pronounced by the iron men, engineers, and plumbers of the old world as one that will create a complete revolution in the iron business, as iron of all kinds for architectural purposes, iron household utensils, gas, steam, and water pipes can be thus treated, and all danger of their falling off their designed purposes by reason of rust can be removed. The process is soon to be introduced into this country, and its adoption here would seem to be almost an absolute certainty, as several large manufacturers in this and other cities have applied to the English patentees for the right to use the process.

The process was brought to this country by Prof. George W. Maynard, the metallurgical engineer of this city, who has investigated the process in England.

Thankfully Acknowledged. Dr. W. W. Col., Jan 6, 1881. H. H. WARNER & Co., St. L.--I have been troubled with kidney complaint for four years. I am now a well man, thanks to your Safe Kidney and Liver Cure.

F. B. SEMPLE, July 17th Clerk American House. Our Growing Silk Industry. Iron and Steel Bulletin. A report just issued by the Silk Association of America, summing up the statistics of the fiscal year ending June 30, 1882, shows that the manufacture of silk goods has now attained the highest point in its history in the United States.

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To the Consumers of Carriages & Buggies.

I have a complete stock of all the Latest Styles of Carriages, Phaetons and Open and Top Buggies, Consisting of The Celebrated Brewster Side Bar, The Hamlin Side Bar, The Whitney Side Bar, and The Mulholland Spring.

The Dexter Queen Buggy and Phaeton. Also the Old Reliable Klipac Spring Buggies and Phaetons. They are all made of the best materials, and under my own supervision. I should be pleased to have those desirous of purchasing to call and examine my stock. I will guarantee satisfaction and warrant all work.

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The Very Best of Brooms Constantly on Hand. The Highest Market Price Paid for

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Mrs. J. E. Metcalf and Miss Belle Lewis Are now dealing in all kinds of fancy goods, such as Lace, Embroideries, Ladies' Underwear of all descriptions, also standkerchiefs, both in silk and linen, hose of all kinds, thread, pins, needles, etc. We hope the ladies will call and see our stock of goods at 530 Broadway before going elsewhere.

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UNION AVENUE HOTEL, 817 Lower Broadway, Mrs. C. Gerspacher & Son. FIRST CLASS HOTEL AT REASONABLE PRICES. TRANSIENTS ACCOMMODATED. HOTEL FOR SALE. GOOD REASONS FOR SELLING.

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